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Research Article

Notes on Ichneumoninae (Hymenoptera, Ichneumonidae) from southern China, with descriptions of one new genus and twelve new species

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https://zoobank.org/7FD0965E-3F37-4137-A55E-A7F0C1A98659

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Abstract

In this survey, distributional records and taxonomic remarks are presented for 27 species of the subfamily Ichneumoninae (Hymenoptera, Ichneumonidae) which were collected at higher altitudes of the Provinces of Yunnan and Sichuan in south China. One genus and twelve species are new for science and described and illustrated: *Rugichneumon* **gen. nov.**, *Aoplus rufomesonotator* **sp. nov.**, *Asthenolabus clypealis* **sp. nov.**, *Coelojoppa scutellator* **sp. nov.**, *Cratolaboides chinensis* **sp. nov.**, *Exephanes rufocapitis* **sp. nov.**, *Hedyjoppa chinensis* **sp. nov.**, *Hepiopelmus gongshanus* **sp. nov.**, *Holcojoppa chinensis* **sp. nov.**, *Melanichneumon nigroclypeatus* **sp. nov.**, *Rugichneumon tricolor* **sp. nov.**, *Stenaoplus albistriatus* **sp. nov.** and *Sycaonia bicoloratus* **sp. nov.**

Zusammenfassung

In dieser Arbeit werden neue Verbreitungsangaben und taxonomische Hinweise zu 27 Arten der Subfamilie Ichneumoninae (Hymenoptera, Ichneumonidae) gemacht, welche in höheren Regionen der Provinzen Yunnan und Sichuan aus Süd-China gesammelt wurden. Eine Gattung und zwölf Arten sind neu für die Wissenschaft und werden hier beschrieben und illustriert: *Rugichneumon* **gen. nov.**, *Aoplus rufomesonotator* **sp. nov.**, *Asthenolabus clypealis* **sp. nov.**, *Coelojoppa scutellator* **sp. nov.**, *Cratolaboides chinensis* **sp. nov.**, *Exephanes rufocapitis* **sp. nov.**, *Hedyjoppa chinensis* **sp. nov.**, *Hepiopelmus gongshanus* **sp. nov.**, *Holcojoppa chinensis* **sp. nov.**, *Melanichneumon nigroclypeatus* **sp. nov.**, *Rugichneumon tricolor* **sp. nov.**, *Stenaoplus albistriatus* **sp. nov.** und *Sycaonia bicoloratus* **sp. nov.**

Key Words

China, Ichneumonidae, Ichneumoninae, new genus, new species, Oriental Region, taxomomy

Introduction

The subfamily Ichneumoninae is a very large group of Ichneumonidae (Hymenoptera) with almost 4400 described species worldwide (Yu et al. 2016). Although this group includes many large and colourful species, our knowledge of the taxonomy and biology is still incomplete even in better-known areas, such as Europe.

Up to now, almost 700 species of Ichneumoninae are listed for the Oriental Region in a recent catalogue (Yu et al. 2016), but many species are still undescribed (Broad et al. 2018).

In recent years, I had the opportunity to study Oriental Ichneumoninae from several European museums resulting in the descriptions of many new species (Riedel 2011, 2013, 2017a, 2017b). Here, I report new findings

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on the Oriental Ichneumoninae from the Senckenberg Deutsches Entomologisches Institut at Müncheberg, Germany (SDEI).

Material and methods

This publication is based on the material of Ichneumoninae collected by a survey by the SDEI in Yunnan and Sichuan in 2009. The collections were made using hand-nets and Malaise traps in mountain areas of these provinces at altitudes between 1700 m and 3000 m. All examined specimens are actually deposited in the SDEI. The holotypes will later be forwarded to ASM (Asian Sawfly Museum, Jiangxi Normal University, Nanchang, Jiangxi, China).

For the descriptions below, morphological terms usually follow Broad et al. (2018). Distributional data were taken from the catalogue of Yu et al. (2016). For the comparison of the new species with known taxa, I usually referred to the published original descriptions and available images of known species and the material in my collection. For measurements, the following relationships were used: length of 1st flagellar segment was measured in lateral view (length without annellus) and length and width of hind femur in lateral view. For the punctation of body parts, the following definitions were used: very sparse – distance between punctures > 2× the diameter of punctures; sparse – distance 1.1–2.0× the diameter; rather dense – distance about as large as puncture diameter; dense – puncture diameter larger than distance between punctures.

For measurements, an Olympus SZX 7 stereomicroscope with dividing eyepiece was used. The figures were mainly taken with an Olympus SC 50 CCD-camera using the cellSens Imaging software and processed with Helicon Pro software and Microsoft Office Picture Manager.

Abbreviations: **OED** - distance between lateral ocellus and compound eye; **OOD** - distance between lateral ocelli. **HT** - holotype, **PT** - paratype.

Results

Tribus Ichneumonini

Achaius flavobalteatus Cameron, 1901

Material. China, Sichuan, Gongga Shan, 29°59.7'N, 102°05.0'E, 2200 m elev., 1 ♀ 27.VI.2009, leg. Blank, Liston, Taeger.

Distribution. Known from India and Myanmar, new record for China.

Aeneonaenaria occidentalis Heinrich, 1974

Material. China, Yunnan: Tengchong 35 km SW: Gongshan, 24.828°N, 98.767°E, 2200 m elev., 1 ♂ 02.VI.2009, leg. Blank, Liston, Taeger.

Remarks. Flagellum with 38 segments, distal segments more or less nodose. Tyloids on flagellar segments 7–15, segments 9–13 with ivory stripes. Propleuron bluish, without ivory spot. 5th tergite with small posterolateral ivory spot. 3rd tergite with dense fine punctures and fine median aciculation. Otherwise, as described by Heinrich (1974a: 421–423). It slightly differs from *Aeneonaenaria birmanica* Heinrich, 1974 by the structure of the 3rd tergite, but both species might be synonymous.

Distribution. Known from India, new record for China.

Aoplus rufomesonotator sp. nov.

https://zoobank.org/A54C2498-F313-4D80-BDA4-B59871F769B4

Figs 4, 8–11

Type material. ***Holotype.*** (♀) China, Sichuan: Enei Shan, Jieyindian, 29.537°N, 103.331°E, 2400–2500 m elev., 06.VII.2009, leg. Blank, Liston, Taeger.

Etymology. The species name refers to the rufous mesoscutum ("mesonotum" of older authors).

Description. Female. Body length 11 mm. Flagellum with 32 segments, slightly lanceolate; 1st flagellar segment 3.3× as long as wide; about 12th segment square; widest segments 1.2× as wide as long. Temple short, strongly and almost linearly narrowed behind eye. OED 1.0× ocellar diameter. Frons granulated, with superficial punctures. Face granulated and densely punctate, dull. Clypeus slightly convex, with coarse punctures, ± shining; apical margin almost straight. Mandible narrow; lower mandibular tooth much smaller than upper tooth, moderately bent inwards (by ca. 45°). Malar space 1.0× as long as basal mandibular width. Gena laterally 0.6× as wide as eye. Genal carina reaching hypostomal carina far from mandibular base, both carinae low.

Mesosoma covered with grey hairs. Mesoscutum densely and finely punctate and granulate, dull. Notaulus impressed in anterior 0.4 of mesoscutum. Mesopleuron and metapleuron densely rugose-punctate, speculum densely punctate; juxtacoxal carina distinct. Scutellum moderately convex, slightly wider than long, with sparse punctures and lateral carina on anterior 0.2. Area basalis confluent with area superomedia, slightly bulging forward medially. Area superomedia hexagonal, slightly longer than wide. Costula indistinct. Area petiolaris coarsely rugose, with lateral carina on posterior half. Posterolateral edge of area dentipara without apophysis. Hind coxa densely, but superficially punctate, with distinct scopa in apical 1/4. Legs slender. Hind femur densely punctate, 4.2× as long as wide. Tarsal claws simple, strongly bent apically (by almost 90°). Areolet pentagonal, frontal distance between veins 2rs-m and 3rs-m 3× diameter of these veins; vein 2m-cu reaching its middle. Vein 1cu-a slightly postfurcal (by 1× its width).

Metasoma strongly oxypygous. Postpetiole moderately widened, without latero-median carina; median field slightly elevated, finely rugulose. Gastrocoelus slightly

impressed. Thyridium large, moderately oblique, 1.8× as wide as interval between thyridia. 2nd to 4th sternites with median folds. 2nd tergite 1.2× as long as wide, 2nd and 3rd tergites densely and finely rugulose-punctate, dull; following tergites with superficial punctures, ± shining. Ovipositor sheath widely extending beyond metasomal apex (by 0.8× length of 2nd hind tarsomere).

Colour. Black with extensive red markings. Stripes on flagellar segments 8–12, collar and upper margin of pronotum, subtegular ridge and scutellum ivory. Head reddish; stripe on inner orbit yellow (widened at frontal orbit). Stemmaticum and occiput black. Mesosoma black; pronotum and mesoscutum reddish. Metasoma reddish; petiolus anteriorly, anterior halves of 2nd and 3rd tergites and narrow anterior bands of following tergites infuscate. Fore- and mid-coxae reddish, with yellow spots externally. Hind coxa black, red dorsally and apically. Fore- and mid-femora black, reddish frontally. Hind femur black, narrowly red basally. Tibiae black, fore- and mid-tibia reddish frontally and basally, hind tibia red basally. Tarsi red. Wings not distinctly infuscate, pterostigma ochreous.

Male. Unknown.

Remark. This new species resembles *Aoplus rantaizanus* (Uchida, 1927) from Taiwan, but this species differs from *A. rufomesonotator* by its reddish-brown head with yellowish-red clypeus and face, the reddish mesosoma with yellowish pronotum and mesopleuron and entirely reddish legs.

Distribution. Sichuan (China).

Chiaglas nigripes Cameron, 1902

Material. China, Yunnan: Gongshan 10 km NW, 27.798°N, 98.583°E, 2100 m elev., 1 ♂ 12.VI.2009, leg. Blank, Liston, Taeger; China, Yunnan: Tengchong, 35 km SE Gongshan, 24.828°N, 98.767°E, 2200 m elev., 1 ♀ 2.VI.2009, leg. Blank, Liston, Taeger.

Distribution. Widespread in southern and Southeast Asia, new record for China.

Coelojoppa scutellator sp. nov.

https://zoobank.org/5333468C-84DC-447C-BD4D-29AF35BAFFDA

Figs 12–16

Type material. ***Holotype.*** (♀) China, Yunnan: Tengchong, 35 km SE: Gongshan, 24.828°N, 98.767°E, 2200 m elev., 1 ♀ 28.V.2009, leg. Blank, Liston, Taeger.

Etymology. The species name refers to the completely carinated scutellum.

Description. Female. Body length 9 mm. Flagellum with 36 segments, moderately lanceolate; 1st flagellar segment 2.0× as long as wide; about 11th segment square; widest segments 2.0× as wide as long. Temple short, strongly and roundly narrowed behind eye. Ocelli large, OED 0.8× and OOD 0.8× ocellar diameter. Frons granulated and with superficial punctures. Face rather densely punctate, shining, slightly and longitudinally bulging medially and laterally. Clypeus moderately convex, 2.5× as wide as long, sparsely punctate, indistinctly separated from face; apical margin sharp and almost straight. Mandible large; lower mandibular tooth much smaller than upper tooth, not bent inwards. Malar space long, 1.2× as long as width of mandibular base. Gena with rather dense punctures ventrally. Genal carina reaching mandibular base, genal and hypostomal carinae low.

Mesoscutum densely and finely punctate and granulate, ± dull. Notaulus not impressed. Mesopleuron and metapleuron finely and densely punctate, mesoscutum finely rugose-punctate ventrally and with fine longitudinal striae in front of speculum. Speculum finely punctate; juxtacoxal carina present. Scutellum moderately convex, about as long as wide, with sparse punctures and complete lateral carina. Propodeum densely punctate, without apophysis; spiracle slit-shaped. Area basalis without lateral carina, smooth, with median tubercle. Area superomedia heart-shaped, slightly longer than wide, partly smooth. Costula reaching area superomedia at 6/10 of its length. Posterior transverse carina reaching area petiolaris. Area petiolaris transversely rugose, with lateral carina. Hind coxa densely punctate, without scopa. Hind femur finely and densely punctate, 4.2× as long as wide. External surface of hind tibia with 5 denticular spines. Tarsal claws simple, strongly bent apically (by almost 90°). Areolet pentagonal, frontal distance between veins 2rs-m and 3rs-m 4× diameter of these veins; vein 2m-cu distal to its middle. Vein 1cu-a interstitial.

Metasoma strongly oxypygous. Postpetiole moderately widened, densely and finely punctate, without latero-median carina; median field not separated. Gastrocoelus moderately impressed, with some fine rugae. Thyridium small, slightly oblique, 0.4× as wide as interval between thyridia. 2nd to 4th sternites with median folds. 2nd tergite 1.1× as wide as long. 2nd and 3rd tergites densely and finely rugulose-punctate, ± dull; following tergites with superficial punctures, ± shining. Ovipositor sheath widely extending beyond metasomal apex (by length of 3rd hind tarsomere).

Colour. Black. Scape, pedicel and flagellar segments 1–9 reddish brown, segments 10–16 ivory, distal segments black. Palps, mandible, except teeth, clypeus (with brownish suffusion medially), face, except reddish-brown paramedian stripes, gena and entire orbits, frontal and upper margins of pronotum, paramedian stripes of mesoscutum, subtegular ridge, long stripe of ventral mesopleuron, prescutellar ridge, side of scutellum, postscutellum, upper division of metapleuron and posterolateral stripe of propodeum ivory. Tegula, mesopleuron centrally and lateral petiolus reddish. 1st to 3rd tergites with posterior ivory bands; 4th tergite with small ivory spot postero-laterally; 6th tergite posteriorly and 7th tergite entirely ivory. Fore- and mid-coxae ivory, legs otherwise reddish; fore- and mid-tarsi reddish-brown. Wings hyaline; pterostigma ochreous.

Male. Unknown.

Remarks. Due to the typical structure of genal carina, scutellum and propodeum, this new species belongs to the genus *Coelojoppa* Cameron and runs to this genus in the key of Oriental Ichneumoninae (Townes et al. 1961). It differs from the type species, *C. cariniscutis* Cameron, 1904, by the pentagonal areolet of fore wing, densely punctate postpetiole and different colour pattern of metasoma (all tergites with ivory posterior bands in *C. cariniscutis*).

Exephanes rufocapitis sp. nov.

https://zoobank.org/AAFD9C14-F61F-4030-8D57-4FB076F2551A

Figs 5, 17–21

Type material. ***Holotype.*** (♀) China, Yunnan, Gongshan, 40 km SW: Dulong, 27.984°N, 98.324°E, 1700 m elev., 08.VI.2009, leg. Blank, Liston, Taeger.

Etymology. The species name refers to the rufous colour of the head.

Description. Female. Body length 11 mm. Flagellum with 38 segments, stout and almost filiform; 1st flagellar segment 1.8× as long as wide, about 9th segment square; widest segments and pre-apical segment 1.4× as wide as long. Temple moderately and roundly narrowed behind eye, coarsely rugose-punctate. OED 1.8× and OOD 1.6× ocellar diameter. Frons coarsely rugose-punctate, dull. Face with dense punctures, partly with transverse rugae. Clypeus almost flat, with sparse punctures; apical margin sharp and straight. Mandible with blunt teeth, ventral tooth very small. Gena with rather dense punctures ventrally. Malar space 1.1× as long as width of the mandibular base. Genal carina reaching hypostomal carina far from mandibular base; both carinae low.

Notaulus shortly impressed at anterior margin of mesoscutum. Mesoscutum densely punctate, ± shining. Mesopleuron coarsely punctate and striate; speculum with fine punctures. Epicnemial carina low. Metapleuron coarsely punctate and striate; juxtacoxal carina present. Scutellum almost flat, about as long as wide, punctate, without lateral carina. Propodeum rugose, spiracle slit-shaped. Area basalis trapezoid, ca. 2× as wide as long. Area superomedia rectangular, 1.5× as long as wide. Costula absent. Area petiolaris with lateral carina and transverse rugae. Hind coxa densely punctate, without scopa. Hind femur 4.0× as long as wide, with sparse punctures basally and in ventral half. Tarsi slender. Tarsal claws simple. Areolet pentagonal; frontal distance between veins 2rs-m and 3rs-m 5× diameter of these veins; vein 2m-cu slightly distal to its middle. Vein 1cu-a strongly postfurcal by 4× its width.

Metasoma oxypygous, slightly compressed in posterior third. Only 2nd and 3rd sternites with median folds. Postpetiole distinctly widened, without latero-median carina; median field finely aciculate, lateral carina aciculate and finely punctate. Gastrocoelus impressed, with longitudinal ridges. Thyridium slightly oblique, 0.7× as wide as interval between thyridia. 2nd tergite 1.2× as wide as long. 2nd tergite finely rugose-punctate, dull. 3rd tergite finely punctate, ± shining. 7th tergite slightly longer than 6th tergite, 8th tergite visible dorsally. Ovipositor sheath slightly extending behind metasomal apex, rather slender; cerci reaching beyond basal half.

Colour. Black. Head reddish; occiput in part and area around antennal scrobes blackish. Scape and flagellar segments 1–9 reddish; segments 10–14 ivory, distal segments black. Mesosoma black; collar and wide upper margin of pronotum, mesoscutum, subtegular ridge, postscutellum and diffuse spots on area externa of propodeum reddish. Scutellum yellow with reddish margins. 1st to 3rd tergites red, following tergites black; 5th sternite with small median ivory spot, 6th to 8th tergites with ivory median stripes. Legs red; hind coxa ventrally and stripes of all trochanters black. Wings with yellowish suffusion; pterostigma reddish-yellow.

Male. Unknown.

Remark. This new species represents the only known Oriental member of the Holarctic genus *Exephanes* Wesmael which has a characteristic structure of the metasomal apex with the elongate 7th tergite and visible 8th tergite and elongate cerci. The new species differs from the known Palaearctic species of *Exephanes* by its red head, partly red mesosoma and tricoloured flagellum.

Hedyjoppa chinensis sp. nov.

https://zoobank.org/D598D1EE-5B84-4D2C-B731-0BB57BC7C97D

Figs 2, 22–25

Type material. ***Holotype.*** (♂) China, Yunnan, Pianma env., 25.973°N, 98.708°E, 2500 m elev., 03.VI.2009, leg. Blank, Liston, Taeger.

Etymology. The species name refers to the country of collection, China.

Description. Male. Body length 13 mm. Flagellum with 40 segments, bristle-shaped; 1st flagellar segment 2.5× as long as wide; distal segments moderately nodose. Tyloids on flagellar segments 9–18, long-oval, maximally 0.8× as long as their segments. Temple distinctly and roundly narrowed behind eye, with microsculpture and sparse punctures, shining. OED 1.1× and OOD 1.0× ocellar diameter. Frons moderately concave, almost smooth, shining. Face finely and rather densely punctate, with microsculpture, ± shining, medially moderately bulging. Clypeus not distinctly separated from face, almost flat, 2.5× as wide as long, with rather dense punctures; apical margin sharp and straight. Mandible slender, with two teeth; ventral tooth much smaller than dorsal tooth and slightly bent inwards. Malar space 0.6× as long as width of mandibular base. Gena with rather dense punctures ventrally. Genal carina reaching hypostomal carina far from mandibular base, both carinae low.

Notaulus impressed at anterior 1/6 of mesoscutum. Mesoscutum densely punctate and finely granulate, ± dull. Side of pronotum punctate dorsally, striate ventrally. Mesopleuron and metapleuron densely punctate and shining;

speculum smooth; juxtacoxal carina present. Scutellum slightly elevated, slightly longer than wide, densely punctate and with lateral carina in anterior 2/3. Propodeum in profile with an evenly arcuate line from base to apex and with distinctly elongate and sloping area dentipara, coarsely, but superficially rugose, without apophysis; spiracle slit-shaped. Area basalis and area superomedia confluent. Area basalis smooth and without lateral carina, slightly bulging forwards medially. Area superomedia almost sickle-shaped, ca. 2× as wide as long, partly smooth; costula reaching its middle. Area petiolaris long and slender, with transverse rugae and distinct lateral carina. Lateral longitudinal carina of propodeum strong. Hind coxa coarsely and densely punctate. Hind femur densely punctate, 4.2× as long as wide. External surface of hind tibia with about 12 distinct spines. Tarsal claws simple, strongly bent apically (by 90°). Areolet pentagonal, frontal distance between veins 2rs-m and 3rs-m 4× diameter of these veins; vein 2m-cu slightly distal to its middle. Vein 1cu-a postfurcal by 3× its width.

Metasoma slender. Postpetiole slightly widened, without latero-median carina; median field not separated, finely aciculate; lateral field with some coarse punctures. Gastrocoelus strongly impressed and with coarse curved ridges. Thyridium transverse, 0.5× as wide as interval between thyridia. 2nd tergite 1.1× as long as wide. 2nd and 3rd tergites coarsely punctate and distinctly striate medially, ± dull. Following tergites with superficial punctures and ± shining. Hypopygium unmodified; apical margin distinctly rounded.

Colour. Black with extensive yellow colouration. Scape yellow; pedicel and flagellar segments 1–11 reddish-yellow, distal segments black. Head yellow; black are frons medially, stemmaticum and occiput. Mesosoma largely yellow; pronotum with transverse black band centrally. Mesoscutum black, with long median reddish-yellow band and lateral yellow stripe at wing base. Tegula, subtegular ridge, prescutellar ridge, scutellum and postscutellum yellow. Mesopleuron and mesosternum yellow, frontal, dorsal and posterior margins of mesopleuron black. Metapleuron and propodeum yellow; margins of metapleuron, area petiolaris and area posteroexterna black. Petiole black with partly reddish suffusion. Postpetiole yellow. 2nd tergite yellowish, following tergites reddish-yellow; all tergites with ± wide anterior blackish bands. Legs including coxae and trochanters yellow; tarsi pale-yellow. Wings slightly infuscate; pterostigma brown.

Female. Unknown.

Remark. Due to the characteristic structure of the propodeum, this new species belongs to the Protichneumonini sensu Heinrich (1968a) and runs to *Hedyjoppa* Cameron in the key to Oriental Ichneumoninae (Townes et al. 1961). Although the ♀ of this new species is unknown, I include it in the genus *Hedyjoppa* here. It differs from *Hedyjoppa aurantacea* Cameron, 1904 from India and *H. hashimotoi* Kusegimati, 1987 from Taiwan by the pentagonal areolet of fore wing, punctate metapleuron and the colouration of the metasoma with yellow or reddish-yellow tergites with anterior dark bands.

Hepiopelmus flavomaculatus (Cameron, 1903)

Material. China, Sichuan, Emei Shan, Jieyindian, 29.537°N, 103.331°E, 2400–2500 m elev., 1 ♀ 05.VII.2009, leg. Blank, Liston & Taeger (SDEI); China, Yunnan, Tengshong, 25.016°N, 98.466°E, 1900 m elev., 1 ♀ 31.V.2009, leg. Blank, Liston & Taeger.

Distribution. Known from China, India and Myanmar.

Hepiopelmus gongshanus sp. nov.

https://zoobank.org/EAB42DA2-7005-408F-9B97-9CAF2A34A0C3

Figs 3, 28–32

Type material. ***Holotype.*** (♀) China, Yunnan, Gongshan 10 km NW, 27.798°N, 98.583°E, 2100 m elev., 10.VI.2009, leg. Blank, Liston & Taeger.

Etymology. The species name refers to the collection site near Gongshan in Yunnan.

Description. Female. Body length 18 mm. Flagellum with 51 segments, bristle-shaped; 1st flagellar segment 2.5× as long as wide; about 13th segment square; widest segments about square. Temple rather short, distinctly and almost linearly narrowed behind eye. OED 1.3× and OOD 1.0× ocellar diameter. Temple and frons finely rugose-punctate, dull. Face finely and densely punctate, ± shining. Clypeus almost flat, with larger dense punctures medially, with sparse punctures laterally; apical margin sharp and straight. Mandible with two large teeth; ventral tooth smaller than dorsal one and slightly bent inwards. Malar space 1.0× as long as width of mandibular base. Gena with rather dense punctures ventrally. Genal carina reaching hypostomal carina far from mandibular base, both carinae low.

Notaulus shortly and weakly impressed at anterior margin of mesoscutum. Mesoscutum with fine and dense punctures, dull. Mesopleuron finely and densely punctate and with longitudinal striae, dull; speculum finely punctate. Metapleuron finely rugose-punctate; juxtacoxal carina present. Scutellum slightly convex and slightly wider than long, finely punctate, with lateral carina in its anterior 0.2. Propodeum finely rugose, without apophysis; spiracle slit-shaped. Area basalis much wider than long, without median tubercle; lateral carina partly obsolete. Area superomedia hexagonal, slightly longer than wide. Costula absent. Area petiolaris coarsely rugose, with distinct lateral carina. Hind coxa finely and densely punctate and with dense short setae, but without scopa. Hind femur finely and densely punctate, 5.0× as long as wide. External surface of hind tibia without denticular spines. Tarsal claws simple. Areolet pentagonal, frontal distance between veins 2rs-m and 3rs-m 5× their diameter; vein 2m-cu slightly distal to its middle. Vein 1cu-a s postfurcal by 3× its width.

Metasoma (semi-)amblypygous; hypopygium slightly longer than distance between its posterior margin and metasomal apex. Postpetiole strongly widened, without latero-median carina; median field not separated, smooth and with very sparse fine punctures, lateral field finely and densely punctate. Gastrocoelus slightly impressed and with few longitudinal ridges. Thyridium moderately oblique, 0.5× as wide as interval between thyridia. Only 2nd sternite with median fold. 2nd tergite 1.1× as wide as long. 2nd and 3rd tergites very finely and densely punctate, finely rugose in their anterior halves, dull. Following tergites with fine superficial punctures, ± shining. Ovipositor sheath short, not reaching beyond metasomal apex.

Colour. Black. Scape, pedicel and flagellar segments 1–18 yellowish, distal segments black. Head including palps mainly yellowish; black are occiput, stemmaticum and median frons. Face centrally and clypeus apically with small brownish spots. Mesosoma black; yellowish are propleuron, in part, collar, wide upper margin and wide ventral edge of pronotum, two paramedian stripes (confluent posteriorly) of mesoscutum, tegula, subtegular ridge, large central spots of mesopleuron and mesosternum, prescutellar ridge, scutellum and postscutellum, upper division and central spots of metapleuron, large propodeal spot of area spiraculifera, area externa and area dentipara. Petiole black, postpetiolus yellow. Following tergites reddish-yellow; 2nd and 3rd tergites diffusely brownish anteriorly and yellowish postero-laterally. Legs, except black base of hind coxa, entirely yellowish. Wings hyaline; pterostigma yellowish.

Male. Unknown.

Remarks. The new species is a typical member of the genus *Hepiopelmus* Wesmael, a genus which is known from the Palaearctic Region and from higher altitudes of the Oriental Region (Heinrich 1974a). The new species runs to *H. flavomaculatus* (Cameron, 1903) in the key of *Hepiopelmus* (Heinrich 1974a: 412), but differs by the mainly reddish-yellow metasoma and almost entirely yellow legs.

Holcojoppa chinensis sp. nov.

https://zoobank.org/DC617AFD-7CCD-4107-A362-3F248C6B9FDB

Figs 1, 26–27

Type material. ***Holotype*:** (♀) China, Yunnan: Deqin, 10 km SW: Meili mts., 28.423°N, 98.808°E, 2700 m elev., 20.VI.2009, leg. Blank, Liston, Taeger.

***Paratype*:** (♂) label data as in holotype.

Etymology. The species name refers to the country of collection, China.

Description. Female. Body length 18 mm. Flagellum with 37 segments, bristle-shaped; 1st flagellar segment 3.1× as long as wide; all segments longer than wide. Temple strongly and almost linearly narrowed behind eye. OED 1.4× ocellar diameter. Frons almost smooth. Face finely punctate. Clypeus with coarse punctures, slightly convex; apical margin slightly concave. Malar space 1.0× as long as width of mandibular base. Genal carina reaching hypostomal carina far from mandibular base; both carinae low. Mesoscutum, mesopleuron and metapleuron densely punctate; speculum and surrounding areas smooth and shining. Dorsal end of epicnemial carina reaching centre of frontal margin of mesopleuron. Scutellum strongly pyramidal, without lateral carinae. Propodeum with strong carinae. Area basalis without carina. Area superomedia highly elevated, sickle-shaped, smooth; area petiolaris with coarse transverse rugae. Hind coxa punctate, without scopa. Hind femur slender, punctate, 5.4× as long as wide. Tarsal claws simple. Areolet large, pentagonal, frontal distance between veins 2rs-m and 3rs-m 2× diameter of these veins; vein 2m-cu distinctly distal to its middle. Ramellus long. Vein 1cu-a strongly postfurcal by 0.4× its length.

Metasoma amblypygous. Postpetiole strongly widened, rugose-punctate, with distinct latero-median carina. Gastrocoelus strongly impressed and with longitudinal ridges; thyridium not distinctly separated from gastrocoelus, transverse, 1.2× as wide as interval. 2nd tergite 0.8× as long as wide. 2nd to 5th tergites with strong coarse aciculation; 6th and 7th tergites smooth.

Colour. Head, scape, pedicel, mesosoma and 1st and 2nd tergites completely reddish. Palps, mandible, except teeth and facial orbit, yellowish. Flagellum black, in distal half yellowish-brown ventrally. Frons medially and stemmaticum black. 3rd to 7th tergites blackish, with slight violet shine; 6th and 7th tergites posteriorly reddish-yellow. 2nd to 5th sternites pale yellow, 3rd to 5th sternites with triangular lateral black spots. Fore- and mid-legs red. Hind leg mainly black; hind trochanter and trochantellus ventrally yellowish; hind tibia yellow in basal half. Wings yellowish, apices (half the length of distance from areolet to wing apex) brownish.

Male. Body length 16 mm. Flagellum with 33 segments; segments with proximal concavities on inner sides, subapically ± widened. Flagellum entirely black. Structure and colour pattern otherwise as described for ♀.

Remark. This new species resembles *Holcojoppa heinrichi* (Uchida, 1940), but differs by the red 2nd tergite, yellow basal half of hind tibia and less extensive blackish apical margins of the wings.

Lareiga abdominalis (Uchida, 1925)

Material. China, Yunnan, Pianma environment, 25.973°N, 98.708°E, 2500 m elev., 1 ♀ 3.VI.2009, leg. Blank, Liston & Taeger; China, Yunnan, Gongshan 18 km NW, 27.798°N, 98.503°E, 3000 m elev., 1 ♂ 11.VI.2009, leg. Blank, Liston, Taeger.

Remark. The postpetiolus of the ♀ from Pianma environment has ivory posterolateral spots. Features of the ♂: Body length 13 mm. Flagellum with 40 segments; 1st flagellar segment 2.4× as long as wide, distal segments moderately nodose. Flagellar segments 14–20 ivory dorsally. Tyloids on flagellar segments 8–18, long-oval, maximally as long as their segments. Hind femur 4.9× as long as wide. The ♂ differs from the Burmese ♂♂ (see Heinrich (1980: 163–164)) by the central ivory band of the flagellum.

Distribution. Known from Myanmar and China, new record for Yunnan.

Figures 1–3. Habitus, dorsal view: **1.** *Holcojoppa chinensis* holotype (HT); **2.** *Hedyjoppa chinensis* HT; **3.** *Hepiopelmus gongshani* HT.

Figures 4–5. Habitus, lateral view: **4.** *Aoplus rufomesonotator* HT; **5.** *Exephanes rufocapitis* HT.

Figures 6–7. Habitus, lateral view: **6.** *Melanichneumon nigroclypeatus* HT; **7.** *Cratolaboides chinensis* HT.

Figures 8–11. *Aoplus rufomesonotator* sp. nov. HT: **8.** Face, frontal view; **9.** Head, dorsal view; **10.** Propodeum, dorsal view; **11.** Basal tergites, dorsal view.

***Lareiga intermedia* Heinrich, 1980**

Material. China, Yunnan, Gongshan 10 km NW, 27.798°N, 98.583°E, 2100 m elev., 1 ♂ 12.VI.2009, leg. Blank, Liston & Taeger.

Remarks. The examined Chinese specimen is larger (body length 17 mm) than the Indian holotype (body length 13 mm). The colouration slightly differs from the original description (Heinrich 1980: 169): 2nd tergite with small posterolateral ivory spot; propodeum, except black posterior half of area petiolaris entirely ivory; all femora with dorsal blackish stripes. Heinrich (1980) noted that this species might be conspecific with *L. flavomaculata* Cameron, 1905, but more Oriental material and/or genomic studies will be necessary for a definite answer.

Distribution. Known from India, new record for China.

***Lymantrichneumon birmanicus* Heinrich, 1968**

Material. China, Yunnan, Gongshan 10 km NW, 2100 m elev., 27.798°N, 98.583°E, 1 ♀ 12.VI.2009, leg. Blank, Liston & Taeger.

Remarks. This specimen differs from the holotype (see Heinrich (1968a)) by: Hind femur 3.6× as long as wide, with sparse punctures in ventral half. 1st to 4th tergites red, 5th to 7th tergites black. Flagellar segments 1–6 reddish, segments 7–15 yellowish, distal segments black. It is otherwise typical.

Distribution. Known from India and Myanmar, new record for China.

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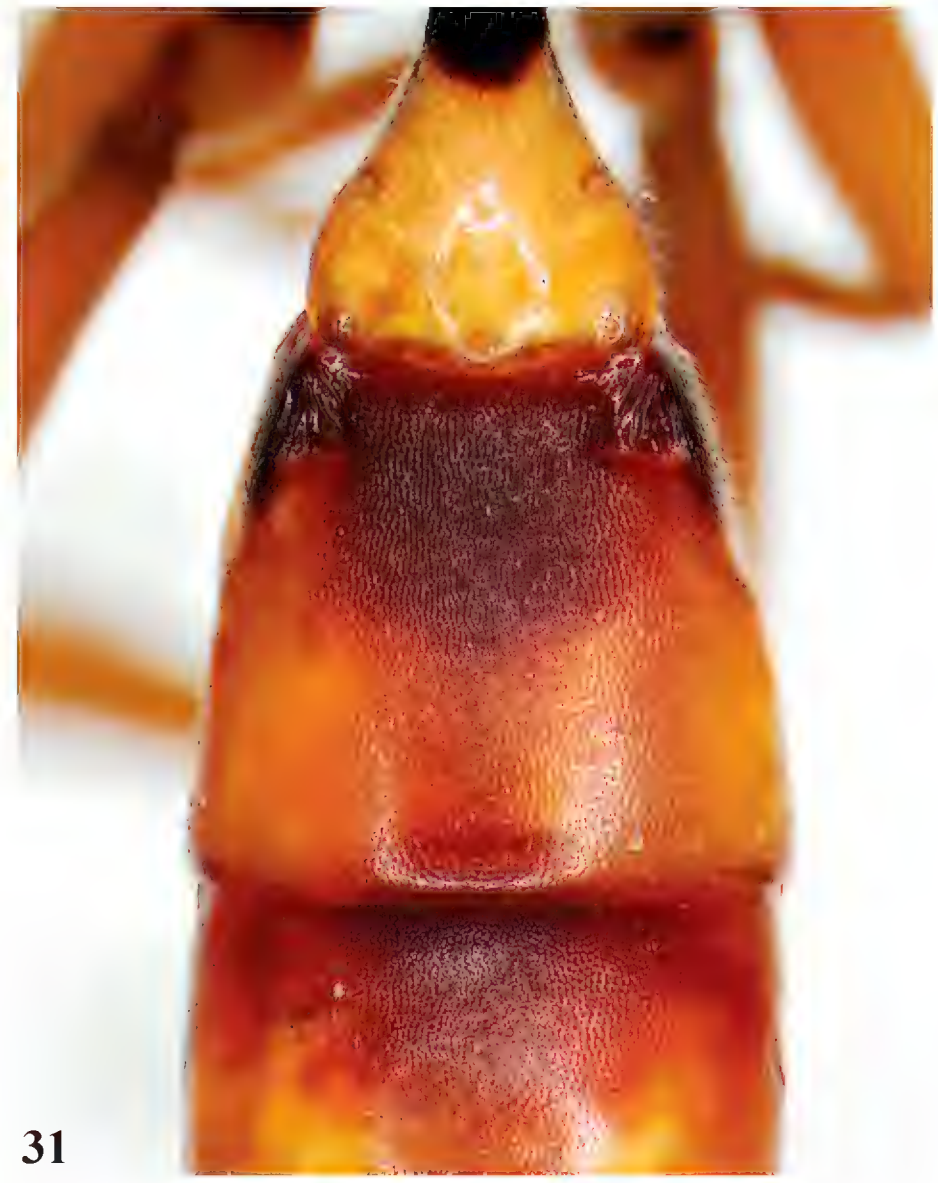
Figures 12–16. *Coelojoppa scutellator* sp. nov. HT: **12.** Face, frontal view; **13.** Head, dorsal view; **14.** Mesosoma, lateral view; **15.** Propodeum, dorsal view; **16.** Basal tergites, dorsal view.

Figures 17–21. *Exephanes rufocapitis* sp. nov. HT: **17.** Face, frontal view; **18.** Head, dorsal view; **19.** Propodeum, dorsal view; **20.** Basal tergites, dorsal view; **21.** Metasomal apex (4th to 8th tergites, lateral view.

Figures 22–25. *Hedyjoppa chinensis* sp. nov. HT: **22.** Face, frontal view; **23.** Head, dorsal view; **24.** Propodeum, dorsal view; **25.** Basal tergites, dorsal view.

Figures 26–27. *Holcojoppa chinensis* sp. nov. HT: **26.** Head, dorsal view; **27.** Basal tergites, dorsal view.



Figures 28–32. *Hepiopelmus gongshanus* sp. nov. HT: **28.** Face, frontal view; **29.** Head, dorsal view; **30.** Propodeum, dorsal view; **31.** Basal tergites, dorsal view; **32.** Metasomal apex, lateral view.

***Melanichneumon nigroclypeatus* sp. nov.**

https://zoobank.org/057B2198-949B-429F-8446-1C9FF237EA47

Figs 6, 33–37

Type material. ***Holotype*:** (♀) China, Yunnan, Gongshan 10 km NW, 27.798°N, 98.583°E, 2100 m elev., 12.VI.2009, leg. Blank, Liston & Taeger.

Etymology. The species name refers to the black clypeus.

Description. Female. Body length 15 mm. Flagellum with 52 segments, moderately lanceolate; 1st flagellar segment 1.5× as long as wide; 4th segment square; widest segments 1.9× as wide as long. Temple moderately and roundly narrowed behind eye. OED 1.2× and OOD 1.1× ocellar diameter. Temple and frons with fine dense punctures. Face granulated and densely punctate, ± dull. Clypeus almost flat, ca. 3.5× as wide as long, with rather dense punctures basally and sparse punctures apically; apical margin sharp and slightly concave. Mandible large, with two teeth; ventral tooth much smaller than dorsal tooth. Malar space 0.6× as long as width of mandibular base. Gena in profile 1.1× as wide as eye, with rather dense punctures ventrally. Genal carina reaching hypostomal carina very close to mandibular base, both carinae low.

Notaulus slightly impressed at anterior margin of mesoscutum. Mesoscutum with fine and dense punctures and microsculpture, but shining. Mesopleuron and metapleuron densely punctate, ventral mesopleuron with some striae posteriorly; speculum punctate; juxtacoxal carina present. Scutellum almost flat and slightly longer than wide, with rather dense punctures, without lateral carina. Propodeum rugose-punctate, without apophysis, spiracle slit-shaped. Area basalis 1.5× as wide as long, with median tubercle. Area superomedia dome-shaped, 1.3× as long as wide. Costula absent. Area petiolaris with transverse rugae and distinct lateral carina. Hind coxa densely punctate, without scopa, with a ± shaped longitudinal edge ventrally. Hind femur stout, densely punctate, 3.0× as long as wide. External surfaces of all tibiae with multiple strong denticular spines. Tarsal claws simple. Areolet pentagonal, frontal distance between veins 2rs-m and 3rs-m 2× diameter of these veins; vein 2m-cu slightly distal to its middle. Vein 1cu-a s postfurcal by 1× its width.

Metasoma oxypyygous. Postpetiole moderately widened, without latero-median carina, densely punctate. Gastrocoelus distinctly impressed and with some coarse longitudinal ridges. Thyridium small, distinctly oblique, 0.3× as wide as interval between thyridia. 2nd and 3rd sternites with median fold. 2nd tergite about as wide as long. 2nd and 3rd tergites dense punctate and shining. Following tergites with superficial punctures, ± shining. Ovipositor sheath slightly reaching beyond metasomal apex.

Colour. Black with extensive ivory colouration. Mandible centrally and scape ventrally reddish. Ivory dorsal stripes of flagellar segments 8–16, palps, base of mandible, face, except large triangular baso-median black spot, wide frontal orbit up to vertex, gena, collar, upper margin and ventral edge of pronotum, two paramedian stripes of mesoscutum, spot of tegula, subtegular ridge, longitudinal stripe of mesopleuron, upper division of metapleuron, scutellum, postscutellum, small spot frontal to propodeal spiracle, large posterolateral spot of propodeum, posterior bands of 1st to 4th tergites (interrupted medially on 4th tergite) and large median spots of 6th and 7th tergites. Legs black; fore- and mid-coxae, except black bases, dorsal and ventral spots of hind coxa, all trochanters, apical spots on fore- and mid-femora, frontal stripes of fore- and mid-tibiae and tarsomeres, except black distal tarsomeres, small central spot of hind tibia and external stripes on 2nd to 4th hind tarsomeres ivory. Wings slightly yellowish; pterostigma reddish with darker margins.

Male. Unknown.

Remark. This new species is a typical member of the genus *Melanichneumon* Thomson. It resembles the Palaearctic and Oriental *M. albipictus* (Gravenhorst, 1820) and *M. spectabilis* (Holmgren, 1864), but differs by the ivory posterolateral spots on 4th tergite and the extensive ivory patterning of the legs.

***Rugichneumon* gen. nov.**

https://zoobank.org/0F4C96A5-5B58-420E-B7B1-F1CD4720FBB7

Type species. *Rugichneumon tricolor* sp. nov.

Etymology. The name refers to the distinct reticulate-rugose anterior tergites of the type species.

Diagnosis. Flagellum rather short and filiform in ♀, bristle-shaped in ♂. Tyloids in ♂ present, but indistinctly differentiated. Temple roundly narrowed behind eye. Temple and frons finely and densely punctate. Face punctate, shining. Clypeus moderately convex, 2.3× as wide as long, punctate; apical margin sharp and almost straight. Mandible unmodified; ventral mandibular tooth smaller than upper tooth and slightly bent inwards. Malar space shorter than width of mandibular base. Genal carina reaching hypostomal carina far from mandibular base. Epomia absent. Notaulus weakly impressed at frontal margin of mesoscutum. Mesoscutum rugose-punctate, ± shining. Mesopleuron and metapleuron including speculum mainly rugose-punctate. Juxtacoxal carina present. Scutellum moderately convex, wider than long, with lateral carina on its anterior 0.7. Propodeum coarsely rugose-punctate, almost continuously sloping to apex, but area dentipara only slightly elongate; apophysis completely absent; spiracles oval. Area basalis not developed. Area superomedia heart-shaped, its anterior margin moderately bulging medially. Anterior transverse carina (costula) present. Hind coxa of ♀ without scopa. Hind femur rather slender. Tarsal claws simple. Areolet pentagonal. Ramellus absent. Vein 1cu-a postfurcal. Metasoma oxypygous. Base of petiole slightly wider than high in ♀, less distinct in ♂. Postpetiole distinctly widened, with strong latero-median carina; median field elevated, coarsely reticulate-rugose. Gastrocoelus distinctly impressed, with some rugae. Thyridium transverse, shorter than interval between thyridia. 2nd to 4th sternites with median folds. 2nd to 4th tergites coarsely rugose-punctate, ± dull. Hypopygium slightly elongate in ♀, its apical margin with a short median extension in ♂. Ovipositor sheath of ♀ slightly extending beyond metasomal apex.

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Figures 33–37. *Melanichneumon nigroclypeatus* sp. nov. HT: **33.** Face, frontal view; **34.** Head, dorsal view; **35.** Propodeum, dorsal view; **36.** Basal tergites, dorsal view; **37.** Hind femur and tibia, lateral view.

Remark. The new genus has an intermediate form of the propodeum: it is more or less gradually sloping posteriorly (as in Protichneumonini sensu Heinrich 1968b), but the area dentipara is not distinctly elongate (as in Ichneumonini sensu Heinrich 1968b). The area basalis is absent and only indicated by a median bulging of the area superomedia towards the postscutellum. The anterior tergites have a very coarse surface structure. The base of the petiolus is slightly wider than high (as in the tribe Platylabini), but the new genus differs from members of Platylabini by several features, such as its unmodified mandible and oxypygous metasoma. The new genus is included in the tribe Ichneumonini sensu Santos et al. (2021) here. In the key to the Oriental genera of Ichneumoninae (Townes et al. 1961), the new genus runs to *Celebijoppa* Heinrich, but differs by a different carination of the propodeum (distinctly dorsal and postero-dorsal faces which meet in a distinct angle in *Celebijoppa*) and the very coarse reticulate surface structure of the anterior metasomal tergites.

Rugichneumon tricolor sp. nov.

https://zoobank.org/C5282A2F-FAF7-4D0F-9B63-8CDF72F00510

Figs 38–43

Type material. ***Holotype*:** (♀) China, Sichuan, Emei Shan, Jieyindian, 29.533°N, 103.331°E, 2500–3000 m elev., 03.VII.2009, leg. Blank, Liston & Taeger.

***Paratype*:** (♂) 081 China, Sichuan, Emei Shan, Jieyindian, 29.537°N, 103.331°E, 2400–2500 m elev., 1 ♀ 06.VII.2009, leg. Blank, Liston & Taeger.

Etymology. The species name refers to the tri-coloured metasoma.

Description. Female. Body length 7.8 mm. Flagellum with 33 segments; 1st flagellar segment 3.1× as long as wide; all segments longer than wide. Temple rather short, moderately and roundly narrowed behind eye. OED 1.4× and OOD 1.4× ocellar diameter. Face with dense larger punctures medially and rather dense finer punctures laterally, shining. Malar space 0.7× as long as width of mandibular base. Gena with rather dense punctures ventrally. Genal carina and hypostomal carina low. Side of pronotum punctate dorsally, rugose ventrally.

Mesoscutum densely rugose-punctate, ± shining. Mesopleuron below subtegular ridge with some fine longitudinal striae. Propodeum almost continuously sloping to apex, but area dentipara only slightly elongate, its apex as far from attachment of metasoma as from anterior transverse carina; spiracle ca. 2× as long as wide. Area superomedia heart-shaped, confluent with area petiolaris. Costula reaching area superomedia at 7/10 of its length. Area petiolaris rugose, with lateral carina. Hind coxa densely punctate, without scopa. Hind femur finely and densely punctate, 4.0× as long as wide. External surface of hind tibia with 1–2 denticular spines. Areolet pentagonal, frontal distance between veins 2rs-m and 3rs-m 4× diameter of these veins; vein 2m-cu reaching its middle. Vein 1cu-a postfurcal by 2× its width.

Metasoma oxypygous, but hypopygium slightly elongate. Lateral field of postpetiole densely punctate. Thyridium transverse, 0.6× as wide as interval between thyridia. 2nd tergite 1.3× as wide as long. 2nd to 4th tergites coarsely rugose-punctate, ± dull; 2nd tergite with very coarse rugae in anterior half. Following tergites with superficial punctures, ± shining.

Colour. Black with extensive brown suffusion. Scape ochreous ventrally, flagellum dark brown; flagellar segments 9–13 ivory. Head brown; stemmaticum and occiput blackish. Side of clypeus, face, except median brown stripe, gena and complete orbits yellow. Mesosoma black; mesoscutum with four brown stripes, paramedian stripes confluent posteriorly. Pronotum dorsally, tegula, mesopleuron largely, metapleuron, except black frontal margin and propodeum, brown. Frontal and upper margins of pronotum, subtegular ridge, scutellum and postscutellum yellow. Postpetiole with posterolateral yellow spot. 2nd to 5th tergites with wide posterior reddish bands (reddish-yellow on 3rd tergite); 6th and 7th tergites largely yellow. Legs brownish; fore coxa with apical yellow spot; hind coxa ventrally and all trochanters blackish. Wings hyaline; pterostigma brown.

Male. Body length 8.3 mm. Flagellum with 33 segments, bristle-shaped; 1st flagellar segment 3.0× as long as wide, all segments longer than wide, not nodose. Tyloids indistinct, on flagellar segments 7–15, linear, maximally as long as their segments. OED 1.1× and OOD 1.3× ocellar diameter. Apical margin of clypeus slightly rounded. Malar space 0.7× as long as width of mandibular base. Propodeal spiracle 2× as long as wide. Area superomedia slightly wider than long. Hind femur 4.2× as long as wide. 5th tergite rugose-punctate. Apical margin of hypopygium with moderate roundish extension medially. Structure otherwise as described for ♀. Colour as described for ♀, except: flagellum without ivory ring, postscutellum brown and mid-coxa and hind femur ± blackish ventrally; all tergites with wide reddish-yellow posterior bands (yellowish on 3rd tergite); postpetiole with posterolateral yellow spot; median yellow spots narrow on 6th tergite and wider on 7th tergite.

Stenaoplus albistriatus sp. nov.

https://zoobank.org/608D7C53-59A8-4590-B99B-6A680D107AFF

Figs 44–47

Type material. ***Holotype*:** (♀) China, Yunnan, Gongshan 10 km NW, 27.798°N, 98.583°E, 2100 m elev., 12.VI.2009, leg. Blank, Liston & Taeger.

Etymology. The species name refers to the apical whitish (Latin "albus") bands of the tergites.

Description. Female. Body length 10 mm. Flagellum with 32 segments, slender and bristle-shaped; 1st flagellar segment 5.0× as long as wide; widest segments about square. Temple distinctly and roundly narrowed behind eye. OED 1.0× and OOD 1.1× ocellar diameter. Frons finely rugose-punctate. Face densely punctate, shining. Clypeus moderately convex, 2.1× as wide as long, densely punctate; apical margin sharp and slightly rounded. Mandible long, strongly narrowed behind base, with two

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Figures 38–43. *Rugichneumon bicolor* sp. nov. HT: **38.** Face, frontal view; **39.** Head, dorsal view; **40.** Propodeum, dorsal view; **41.** Basal tergites of male PT, dorsal view; **42.** Mesosoma, lateral view; **43.** Metasoma, dorsal view.

Figures 44–47. *Stenaoplus albistriatus* sp. nov. HT: **44.** Face, frontal view; **45.** Head, dorsal view; **46.** Propodeum, dorsal view; **47.** Basal tergites dorsal view.

small teeth; ventral tooth smaller than dorsal tooth and distinctly bent inwards (by 75°). Malar space 0.8× as long as width of mandibular base. Gena densely punctate ventrally. Genal carina reaching hypostomal carina far from mandibular base, both carinae low.

Notaulus impressed on anterior 0.4 of mesoscutum. Mesoscutum with fine and dense punctures and distinct granulation, dull. Mesopleuron and metapleuron densely and finely rugose-punctate; speculum partly smooth; juxtacoxal carina indicated by fine rugae. Scutellum distinctly raised medially, almost pyramidal in profile, slightly wider than long, with dense punctures and complete lateral carina. Propodeum rugose-punctate, spiracle slit-shaped. Area basalis without lateral carina, not bulging medially and without median tubercle. Area superomedia trapezoid (wider frontally than posteriorly), about as long as wide. Costula absent. Apical transverse carina with denticular elevation at posterolateral edge of area dentipara, but without distinct apophysis. Area petiolaris with transverse rugae and distinct lateral carina. Hind coxa finely and densely punctate, without scopa. Legs slender; hind femur densely punctate, 4.7× as long as wide. External surface of hind tibia without denticular spines. Tarsal claws simple. Areolet quadrangular, pointed frontally; vein 2m-cu reaching its middle. Vein 1cu-a postfurcal by 2× its width.

Metasoma oxypyygous. Postpetiole moderately widened, without latero-median carina, finely rugulose and dull. Gastrocoelus slightly impressed, granulate. Thyridium very

large, oblique, 3.5× as wide as interval between thyridia. 2nd to 4th sternites with median fold. 2nd tergite 1.2× as wide as long. 2nd and 3rd tergites finely and densely rugose-punctate, dull. Following tergites with superficial punctures, ± shining. Ovipositor sheath slender, clearly reaching beyond metasomal apex (by length of 3rd hind tarsomere).

Colour. Black with extensive yellow colouration. Flagellar segments 8–12 ivory. Yellow are palps, mandible, except teeth, clypeus, face, gena, complete orbits, scape ventrally, frontal and upper margins of pronotum, round central spot of mesoscutum, subtegular ridge, large spot of mesopleuron, upper division of metapleuron, scutellum, postscutellum, spot covering apical metapleuron, area dentipara and area posteroexterna and apical bands of all tergites. Fore- and mid-coxae and trochanters yellow; hind coxa black with yellow dorsal spot, hind trochanter black, with yellow stripe; legs otherwise reddish; 4th and 5th hind tarsomeres brownish. Wings hyaline; pterostigma yellowish.

Male. Unknown.

Remarks. This new species is a member of the genus *Stenaoplus* Heinrich as re-defined by Heinrich (1968b: 1110–1111) and runs to that genus in the key of Oriental Ichneumoninae (Townes et al. 1961). It is characterised by the modified mandible which is distinctly narrowed behind base and slender medially and distally and resembles the mandibular form found in *Benyllus* Cameron, by its almost pyramidal scutellum and by a short blunt denticular lamella at the postero-lateral edge of area dentipara. From other known Oriental *Stenaoplus* species, it can be differentiated by the modified structure of the mandible and the colour pattern of the metasoma with yellowish posterior bands on all tergites.

Stenichneumon (*Myermo*) *appropinquans* (Cameron, 1897)

Material. China, Yunnan, Tengchong, 35 km SW Gongshan, 24.828°N, 98.767°E, 2200 m elev., 1 ♀ 2.VI.2009, leg. Blank, Liston, Taeger.

Remark. Hind coxa of ♀ ventrally with a distinct flange-like projection at the apical margin (subgenus *Myermo* Cameron).

Distribution. Widespread in the Eastern Palaearctic and Oriental Regions, known from Yunnan (Yu et al. 2016).

Stenichneumon (*Stenichneumon*) *maculitarsis* (Cameron, 1903)

Material. China, Yunnan, Tengchong, 25.016°N, 98.466°E, 1900 m elev., 1 ♀ 31.V.2009, leg. Blank, Liston, Taeger.

Remark. Hind coxa of ♀ without a projection at apical margin (subgenus *Stenichneumon* s.str.).

Distribution. Known from India, Nepal, Myanmar and Taiwan, new for continental China.

Sycaonia bicoloratus sp. nov.

https://zoobank.org/0B4E6368-EFD7-4CE7-A2D8-53FE77B27465

Figs 48–52

Type material. ***Holotype*:** (♀) China, Yunnan, Gongshan 18 km NW, 27.798°N, 98.503°E, 3000 m elev., 11.VI.2009, leg. Blank, Liston & Taeger.

Etymology. The species name refers to the bi-coloured metasoma.

Description. Female. Body length 17 mm. Flagellum with 45 segments, bristle-shaped; 1st flagellar segment 2.9× as long as wide; about 9th segment square; widest segments 1.2× as wide as long. Temple distinctly and almost linearly narrowed behind eye. OED 1.3× and OOD 1.0× ocellar diameter. Frons finely and transversely rugose-punctate. Face densely punctate and finely granulate, partly rugose-punctate para-medially. Clypeus almost flat, 2.0× as wide as long, with dense punctures and fine granulation; apical margin blunt and slightly bi-convex. Mandible rather slender, with two large teeth; ventral tooth much smaller than dorsal tooth. Malar space 1.0× as long as width of mandibular base. Gena densely punctate ventrally. Genal carina reaching hypostomal carina far from mandibular base, both carinae low.

Notaulus shortly impressed at anterior margin of mesoscutum. Mesoscutum finely and densely punctate and finely granulate, dull. Mesopleuron and metapleuron densely rugose-punctate; speculum punctate; juxtacoxal carina present. Scutellum moderately and almost pyramidally elevated, 1.3× as wide as long, densely punctate, in centre with slightly bulging sides and slightly impressed medially, without lateral carina. Propodeum finely rugose; spiracle slit-shaped. Area basalis very wide, slightly bulging frontally, but without median tubercle. Area superomedia hexagonal, 1.4× as wide as long. Costula obsolete. Apical transverse carina with blunt denticular elevation at posterolateral edge of area dentipara, but without distinct apophysis. Area petiolaris slightly impressed, with transverse rugae and complete lateral carina. Hind coxa finely and densely punctate, without scopa. Hind femur densely punctate, 4.7× as long as wide. External surface of hind tibia with few stronger spines. Tarsal claws simple. Areolet pentagonal, frontal distance between veins 2rs-m and 3rs-m 5× diameter of these veins; vein 2m-cu slightly distal to its middle. Vein 1cu-a s postfurcal by 2× its width.

Metasoma oxypygous. Postpetiole moderately widened, with weak latero-median carina basally; median field with very fine longitudinal rugae, lateral field granulate. Gastrocoelus distinctly impressed and with coarse ridges. Thyridium oblique, 0.7× as wide as interval between thyridia. 2nd to 4th sternites with median folds. 2nd tergite 1.2× as wide as long. 2nd and 3rd tergites very finely and densely rugose-punctate, ± dull; 2nd tergite with fine longitudinal rugae between gastrocoeli. Following tergites with fine superficial punctures, ± shining. Ovipositor sheath short, not reaching beyond metasomal apex.

Colour. Black with extensive yellow colouration. Mandibular palp ochreous. Maxillary palp and postpetiolus

Figures 48–52. *Sycaonia bicoloratus* sp. nov. HT: **48.** Face, frontal view; **49.** Head, dorsal view; **50.** Propodeum, dorsal view; **51.** Basal tergites, dorsal view; **52.** Scutellum, dorso-lateral view.

ivory. Yellow are ventral stripes of flagellar segments 2–4 and segments 5–12 entirely, mandible, except teeth, lateral spots of clypeus, face, except black median stripe, gena and outer orbit, wide frontal and vertical orbits, propleuron, wide stripes on collar, upper margin and ventral spot of pronotum, long paramedian stripes of mesoscutum, tegula, wing base, subtegular ridge, large spot of ventral mesopleuron, upper division and frontal spot of metapleuron, propodeum, expect black area basalis, area superomedia and area petiolaris, large lateral spots of 2nd to 6th tergites, median spot of 6th tergite and entire 7th tergite, lateral spots of all sternites. Legs black; all coxae, except black bases, apical half of femora and tibiae yellow; tarsi yellow, except black bases of metatarsi and black apical half of distal tarsomeres. Wings with slight yellowish tint; pterostigma red.

Male. Unknown.

Remarks. This new species belongs to a group of Oriental genera which were all included under the name *Cratichneumon* by Townes et al. (1961). Heinrich (1980) separated several genera which had been synonymised under *Cratichneumon*, such as *Lareiga* Cameron and *Sycaonia* Cameron and described several new genera belonging to his subtribe Cratichneumonina. In his key of this group, the new species runs to *Sycaonia* Cameron, but the form of the scutellum resembles the genus *Togeella* Heinrich, although the lateral swellings are much weaker than those found in *Togeella* and the areolet is pentagonal, not rhombic. Here, I provisionally include the new species in the genus *Sycaonia* Cameron, but the taxonomy of the Oriental genera belonging this group needs extensive revision. In the key of Oriental *Sycaonia* species (Heinrich 1980: 171–172), the new species runs to *S. rufofacies* Cameron, but differs by its colour pattern.

Ulesta agitata (Matsumura & Uchida, 1926)

Material. China, Yunnan, Tengchong, 25.016°N, 98.466°E, 1900 m elev., 1 ♂ 31.V.2009, leg. Blank, Liston, Taeger.

Remarks. The ♂ is only briefly described so far. I add some additional information here: Body length 9.5 mm. Flagellum with 30 segments, bristle-shaped; 1st flagellar segment 3.3× as long as wide. Tyloids on segments 7–15, oval, maximally 0.8× as long as their segments. Hind femur 4.2× as long as wide. Colour black. Scape, pedicel and basal flagellar segments ± reddish-brown, distal segments blackish, segments 9–12 ivory ventrally. Palps, collar and hind edge of pronotum, spot of tegula, scutellum, postscutellum and fore- and mid-coxae and trochanters ivory. Propodeum and 1st to 3rd tergites reddish-brown. Fore- and mid-legs, except coxae and trochanters, reddish; hind coxa black ventrally, brown dorsally; hind femur reddish-brown; hind tibia yellowish, narrowly brown apically; hind metatarsus cream-yellow, following tarsomeres ochreous. Wings hyaline; pterostigma brown.

Distribution. Widespread in the Eastern Palaearctic and Oriental Regions, known from Yunnan (Yu et al. 2016).

Xestojoppa olivacea Cameron, 1901

Material. China, Yunnan, Gongshan 10 km NW, 27.798°N, 98.583°E, 2100 m elev., 1 ♀ 10.VI.2009, leg. Blank, Liston, Taeger.

Distribution. Known from India, Myanmar and Nepal, new record for China.

Zanthojoppa popae Heinrich, 1975

Material. China, Yunnan, Gongshan 10 km NW, 27°79.7'N, 98°58.5'E, 2150 m, 1 ♀ 6.VI.2009, leg. Blank, Liston & Taeger.

Remark. Median part of mesoscutum reddish in the anterior 2/3, otherwise as described by Heinrich (1975: 451–452).

Distribution. Known from Myanmar, new record for China.

Tribe Platylabini

Asthenolabus clypealis sp. nov.

https://zoobank.org/27E453D5-7E98-4761-8DB9-43088CA3E3EC

Figs 53–56

Type material. ***Holotype***: (♀) China, Yunnan, Tengchong 35 km SE: Gongshan, 24.828°N, 98.767°E, 2200 m elev., 28.V.2009, leg. Blank, Liston, Taeger.

Etymology. The species name refers to the clypeus, which is distinctly convex in this species.

Description. Female. Body length 10 mm. Flagellum with 37 segments, slender and bristle-shaped; 1st flagellar segment 5.8× as long as wide, all segments longer than wide. Temple distinctly and almost linearly narrowed behind eye. OED 1.0× and OOD 0.9× ocellar diameter. Temple and frons finely granulate, ± shining. Face finely rugose-punctate. Clypeus distinctly convex, rugose-punctate in basal half, with rather dense punctures in apical half; apical margin sharp, rounded. Mandible with two teeth, ventral tooth smaller than dorsal one and moderately bent inwards (by 45°). Malar space 0.7× as long as width of mandibular base. Palpi unmodified, not swollen. Gena with fine dense punctures ventrally. Genal carina reaching hypostomal carina close to mandibular base, both carinae low.

Mesoscutum finely and densely rugose-punctate, dull. Notaulus not impressed. Mesopleuron and metapleuron densely rugose-punctate; speculum with dense fine punctures. Juxtacoxal carina indicated by some irregular rugae. Scutellum moderately elevated, about as long as wide, with complete lateral carina and rather dense fine punctures. Propodeum rugose-punctate, without apophysis, with long-oval spiracles. Area basalis trapezoid, ca. 2× as wide as long. Area superomedia quadrangular, about as long as wide. Costula absent. Area petiolaris with lateral carina and transverse rugae. Hind coxa finely and densely punctate, without scopa. Hind femur densely

Figures 53–56. *Asthenolabus clypealis* sp. nov. HT: **53.** Face, frontal view; **54.** Head, dorsal view; **55.** Propodeum, dorsal view; **56.** Basal tergites, dorsal view.

punctate, 4.9× as long as wide. Tarsal claws simple. Areolet almost quadrangular, frontal distance between veins 2rs-m and 3rs-m 1× diameter of these veins. Vein 1cu-a slightly postfurcal.

Metasoma amblypygous. Petiole wider than high. Postpetiole slightly widened, without distinct latero-medial carina; median field slightly elevated and finely granulate, lateral field finely rugose. Gastrocoelus weakly impressed, with some rugae. Thyridium slightly oblique, 0.6× as wide as interval between thyridia. 2nd tergite about as long as wide. 2nd and 3rd tergites finely granulate and dull, 2nd tergite finely rugose between thyridia. Following tergites ± shining. Ovipositor sheath not reaching beyond metasomal apex.

Colour. Black. Flagellum black; flagellar segments 8–14 ivory. Head blackish; reddish are mandible, except teeth, clypeus, face, wide outer and vertical orbits and scape ventrally. Yellowish are palps, facial orbit (widened dorsally), frontal orbit, malar space and gena. Mesosoma blackish, with extended reddish suffusion. Reddish are mesoscutum, dorsal pronotum, ventral suffusion of mesopleuron and frontal suffusion of metapleuron and lateral parts of propodeum. Cream yellow are frontal and upper margins of pronotum, spot of tegula, subtegular ridge and scutellum. Petiole black; postpetiole and following tergites reddish; 2nd and 3rd tergites diffusely reddish-brown in basal half. Legs mainly reddish. Fore- and mid-coxae with yellowish spots frontally. Trochanters ± brownish.

Hind femur in apical 0.1 and hind tibia in apical 0.6 blackish; hind tarsus, except brown distal tarsomere, ivory. Wings hyaline; pterostigma black.

Male. Unknown.

Remarks. This new species differs from the other known Oriental ♀♀ of *Asthenolabus* Heinrich by the entirely ivory 1st to 4th hind tarsomeres. It might represent the unknown ♀ of *A. vietnamensis* Riedel, 2011, which also has ivory hind tarsi, but differs from *A. vietnamensis* by the less extensive ivory colouration of the head and mesosoma.

Cratolaboides chinensis sp. nov.

https://zoobank.org/0CD0AC45-3960-47C7-93D2-5F18FA02B7BD

Figs 7, 57–61

Type material. ***Holotype***: (♀) China, Yunnan, Gongshan 10 km NW, 27.798°N, 98.583°E, 2100 m elev., Malaise trap 2, 10–12.VI.2009, leg. Blank, Liston, Taeger.

Etymology. The species name refers to the country of collection, China.

Description. Female. Body length 7 mm. Flagellum with 32 segments, slender and almost bristle-shaped; 1st flagellar segment 5.0× as long as wide, ca. 15th segment square, widest segments 1.1× as wide as long. Temple strongly and almost linearly narrowed behind eye. OED 1.1× ocellar diameter. Frons almost smooth, with very fine granulation, shining. Face densely punctate. Clypeus moderately convex, with dense punctures. Mandible with two teeth; ventral tooth smaller than dorsal tooth and moderately bent inwards (by 45°). Malar space 0.9× as long as width of mandibular base. 2nd maxillary palpomere strongly swollen, ovoid, about 2× as long as wide. Genal carina reaching hypostomal carina far from mandibular base, hypostomal carina slightly elevated (about same width as 4th maxillary palpomere).

Mesosoma covered with short setae. Mesoscutum densely punctate, shining. Notaulus not impressed. Mesopleuron and metapleuron densely rugose-punctate. Juxtacoxal carina indicated by some irregular rugae. Scutellum moderately elevated, about as long as wide, with complete lateral carina and rather dense punctures. Propodeum with short-oval spiracles. Area superomedia almost rectangular, 1.4× as long as wide; costula weakly indicated at anterior 0.3 of area superomedia. Area petiolaris slightly impressed, almost smooth, with distinct lateral carina. Posterolateral edge of area dentipara with distinct blunt apophysis. Hind coxa densely punctate, without scopa. Hind femur punctate, 4.0× as long as wide. Tarsal claws simple, strongly curved apically (by 90°). Areolet pentagonal, frontal distance between veins 2rs-m and 3rs-m 2× distance of these veins. Vein 1cu-a interstitial.

Metasoma amblypygous. Petiole wider than high. Postpetiole slightly widened, with fine latero-median carina; median field almost smooth, with some fine punctures. Gastrocoelus weakly impressed. Thyridium oblique, 0.7× as wide as interval. 2nd tergite 1.3× as wide as long. 2nd tergite finely rugulose-punctate, ± dull. 3rd tergite rugulose, ± shining. Following tergites almost smooth.

Colour. Black with extended ivory colouration. Metasoma, except blackish petiole, brownish. Stripes on flagellar segments 9–14, scape ventrally, palps, mandible, except teeth, clypeus, inner orbit up to vertex, outer orbit ventrally, frontal and upper margins of pronotum, central spot on mesoscutum, subtegular ridge, spot of mesopleuron, upper division of metapleuron, apical half of scutellum, postscutellum, apophysis and area posteroexterna, narrow apical bands of all sternites and tergites, fore- and mid-coxae mainly, dorsal spot and apical margin of hind coxa, all trochanters and 1st to 3rd hind tarsomeres ivory. Legs, except coxae and trochanters, otherwise red; hind femur and tibia black in apical third. Wings hyaline, pterostigma brown.

Male. Unknown.

Remarks. This new species resembles the type species of *Cratolaboides*, *C. palpalis* Tereshkin, 2009 (see Tereshkin (2009: 1471–1474)). It differs by more slender basal flagellar segments (1st segment 3.7× as long as wide in *C. palpalis*), ivory colouration of mesosoma and different colour pattern of the hind leg (hind femur and tibia entirely red in *C. palpalis*).

Cyclolabus basirufus Heinrich, 1974

Material. China, Yunnan: Pianma environment, 25.973°N, 98.708°E, 2500 m elev., 1 ♂ 03.VI.2009, leg. Blank, Liston, Taeger.

Remarks. The ♂ is only briefly described by Heinrich (1974b: 145). I give a detailed description here: Body length 8.1 mm. Flagellum with 33 segments, bristle-shaped; 1st flagellar segment 3.5× as long as wide, all segments longer than wide. Temple short and strongly narrowed behind eye. OED 1.0× and OOD 1.4× ocellar diameter. Frons densely rugose-punctate. Face densely punctate. Clypeus moderately convex, ca. 2× as wide as long, densely punctate; apical margin sharp and straight in median half. Mandible with two teeth; ventral tooth much smaller than upper tooth and distinctly bent inwards (by 60°). Malar space 0.5× as long as width of mandibular base. Genal carina reaching hypostomal carina far from mandibular base, both carinae low.

Mesoscutum densely rugose-punctate, dull. Notaulus impressed in anterior fifth of mesoscutum. Mesopleuron and metapleuron densely rugose-punctate, dull. Speculum punctate, partly smooth; juxtacoxal carina present. Scutellum moderately elevated, slightly wider than long, densely punctate and with complete lateral carina. Propodeum shot, rugose, with short-oval spiracles. Area superomedia hexagonal, 2.5× as wide as long; costula reaching its middle. Posterolateral edge of area dentipara with distinct blunt apophysis (as long as its basal width). Hind coxa densely punctate. Hind femur punctate, 4.9× as long as wide. Tarsal claws simple. Areolet almost quadrangular, frontal distance between veins 2rs-m and 3rs-m 1×

Figures 57–61. *Cratolaboides chinensis* sp. nov. HT: **57.** Face, frontal view; **58.** Head, dorsal view; **59.** Propodeum, dorsal view; **60.** Basal tergites, dorsal view; **61.** head with the ovoid 2nd maxillary palp, dorso-lateral view.

diameter of these veins; vein 2m-cu slightly proximal to its middle. Vein 1cu-a interstitial.

Petiole much wider than high. Postpetiole strongly widened, rugose-punctate and with distinct latero-median carina. Gastrocoelus large, distinctly impressed, with some coarse rugae. Thyridium large, almost transverse, 1.4× as wide as interval between thyridia. 2nd tergite 1.2× as wide as long. 2nd and 3rd tergites densely and coarsely punctate, dull; 2nd tergite rugose-punctate in basal half. Following tergites with fine dense punctate, shining. Apical margin of hypopygium rounded.

Colour. Black. Flagellar segments 8–12, facial orbit, hind edge of pronotum, spot of subtegular ridge, apical spot of scutellum, apical margin of 5th to 7th tergites and 1st to 3rd hind tarsomeres ivory. Postpetiole and basal 2/3 of 2nd tergite diffusely reddish. Coxae, trochanters and trochantelli black. Legs otherwise red; fore- and mid-tarsi brownish; hind femur and hind tibia blackish in apical 0.3; 4th and 5th hind tarsomeres black. Wings hyaline; pterostigma black.

Distribution. Known from Myanmar and Vietnam (Riedel 2011), new record for southern China.

Lissolaboides malaisei Heinrich, 1974

Material. China, Yunnan, Gongshan 18 km NW, 27.798°N, 98.503°E, 3000 m elev., 11.VI.2009, leg. Blank, Liston, Taeger.

Remarks. Body length 10 mm. Flagellum with 42 segments, slightly lanceolate; 1st flagellar segment 4.2× as long as wide, widest segments 1.6× as wide as long. OED and OOD 1.2× ocellar diameter. Juxtacoxal carina indicated by irregular rugae. Hind femur 4.2× as long as wide. Apical margin of hypopygium with brush of long whitish setae. Otherwise as described by Heinrich (1974b: 185–186).

It should be mentioned here that this species runs to *Lissolaboides* in couplet 36 in the key to World Platylabini (Tereshkin 2009: 1432–1437), except that the juxtacoxal carina is more or less distinct and the hypopygium has an apical brush of longer setae.

Distribution. Known from Myanmar, new record for southern China.

Platylabus shanicus Heinrich, 1974

Material. China: Sichuan, Gongga Shan, 29.597°N, 102.050°E, 2200 m elev., 1 ♀ 27.VI.2009, leg. Blank, Liston & Taeger.

Remark. Flagellum with 34 segments, hind tibia almost completely blackish. It is otherwise a typical specimen.

Distribution. Known from Myanmar, new record for China.

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